

## **Plans for Improving Services Data... or What Would We Do for \$8 Million?**

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### **Abstract**

The purpose of this paper is to provide the advisory committee of the American Economic Association an overview of the Census Bureau's fiscal year 2008 budget initiative, "Improved Measurement of Services," and to elicit the committee's recommendations on the proposed scope and priorities for the initiative.

The economic census provides comprehensive statistics on services, publishing very detailed industry and geographic information. However, these data are available only every five years. Data on the complete services sector are needed more frequently than every five years to understand the economic world in which we are operating. The focus of this paper and related discussions will be on plans to expand the Service Annual Survey (SAS) and, ultimately, the Quarterly Services Survey (QSS), to cover the entire services sector, reflecting the same coverage as the Economic Census. In addition, the paper describes plans for expanding the operating expense detail in the SAS to include data on employer pension and health care contributions as well as exported services for selected industries.

This paper briefly describes Census Economic Programs' plans, priorities and schedule for implementing the expansions in three phases. We ask you to react to our implementation approach, time schedule, prioritization and offer suggestions for satisfying these data needs, and invite you to recommend other areas for future measurement that we have not identified.

### **Questions:**

1. Do you agree with our implementation plans, including survey and industry priorities, under each of the various funding scenarios we have presented? If not, what do you suggest?
2. Do you agree that annual product line data should be introduced building upon the foundation of 2007 Economic Census product data and a statistical sample selected to account for reliable product detail?
3. What recommendations do you have on other service sector related data, not covered by this initiative, that we should collect?

## **Plans for Improving Services Data... or What Would We Do for \$8 Million?**

### **I. Introduction**

The Economic Census provides comprehensive statistics on services, publishing very detailed industry and geographic information. However, these data are available only every five years. Data on the complete service sector are needed more frequently than every five years to understand the economic world in which we are operating. This paper briefly describes Census Economic Programs' plans, priorities and possible alternative schedules for expanding the measurement of the service sector by exploring various implementation scenarios associated with full or partial funding for a Census Bureau fiscal year 2008 budget initiative, "Improved Measurement of Services." We discuss plans to expand the Service Annual Survey (SAS) and, ultimately, the Quarterly Services Survey (QSS), to cover the entire service sector, reflecting the same coverage as the Economic Census. In addition, the paper describes plans for expanding SAS data on operating expenses, exported services, and, eventually, product lines.

We ask for your comments on our approach and priorities for implementing service sector improvements under the various budget scenarios and invite you to recommend other areas for future measurement that we have not identified.

For the purposes of this paper, "services" is defined as the composition of the following sectors, comprising about 55 percent of the United States' Gross Domestic Product (GDP):

- Utilities
- Transportation and Warehousing
- Information
- Finance and Insurance
- Real Estate and Rental and Leasing
- Professional, Scientific, and Technical Services
- Management of Companies and Enterprises
- Administrative and Support and Waste Management and Remediation Services
- Educational Services
- Health Care and Social Assistance
- Arts, Entertainment and Recreation
- Other Services (Except Public Administration)

### **II. Looking Back at Our Improvement Efforts**

Significant progress has been made at the Census Bureau to improve the measurement of service industries. In 1992, the Economic Census expanded to cover all service industries, providing first time coverage of communications, utilities, financial services, insurance and real estate. In 1997, a new industry classification system was introduced – the North American Industry Classification System (NAICS). NAICS classified establishments based upon their production process. For the first time, NAICS recognized hundreds of new service activities. The Economic Census first published data on a NAICS basis for its 1997 survey period. The SAS first published data on a NAICS basis for 1999, doubling the number of industries published.

Since 1999, a demand-based product classification system, the North American Product Classification System (NAPCS), has been in development. A draft list has been developed for products produced by all NAICS service industries. The 2007 Economic Census will collect data based upon this draft list. Preliminary product data from the Economic Census will be available by late 2009 and final product data will be available in late 2010.

In fiscal year 2003, the Census Bureau received a budget initiative to improve measurement of service industries. The initiative provided for a quarterly measurement of service industry activity – the Quarterly Services Survey (QSS). The QSS provides quarterly measures of total operating revenue and percentage of class of customer receipts for the following sectors: Information; Professional, Scientific, and Technical; Administrative and Support and Waste Management and Remediation Services; and selected Health Care industries – hospitals and nursing and residential care facilities. The QSS is the first new indicator to be introduced by a Federal agency in over 30 years. The first data release was in September 2004, comprising the fourth quarter 2003, and the first and second quarters of 2004. Subsequent data releases have been published approximately 75 days after the end of the reference quarter.

### **III. Summary of SAS Program Today**

The SAS is a sample of approximately 71,000 firms with one or more establishments primarily engaged in the following kinds of business:

- Truck transportation, courier and messenger services, and warehousing and storage
- Information
- Securities, commodity contracts and other financial investments, and related activities; including portfolio management and investment advice
- Rental and leasing services
- Professional, scientific and technical services
- Administrative and support, waste management and remediation services
- Health care and social assistance
- Arts, entertainment and recreation services
- Other services, except public administration, religious, labor and political organizations

Today's SAS program covers about 30 percent of GDP. The survey currently excludes most transportation and finance industries, insurance, real estate, utilities and education.

The SAS produces estimates of total output, expenses, and e-commerce receipts for all industries. The survey produces separate estimates for taxable and tax-exempt firms where tax-exempt organizations account for a substantial portion of industry activity. Entities owned by government are excluded with the exception of government hospitals. Data for firms without paid employees also are collected in the SAS. These data are obtained from the Internal Revenue Service and published at broader levels of industry detail than that for employer firms.

*Attachment A lists industries for which NAPCS product data are collected, specifies data content that varies by industry, and details the expense data to be collected by the SAS for survey year 2007.*

#### **IV. Summary of QSS Program Today**

The QSS is a sample of approximately 6,900 firms with paid employees primarily engaged in the following kinds of business:

- Information
- Professional, Scientific, and Technical Services
- Administrative and Support, and Waste Management and Remediation Services
- Hospitals and Nursing and Residential Care Facilities

Estimates currently produced by the QSS cover approximately 17 percent of GDP. The survey currently excludes utilities; transportation and warehousing; finance and insurance; real estate and rental and leasing; educational services; ambulatory health care services; social assistance; arts, entertainment, and recreation; and other services.

The QSS sample is a sub-sample of the SAS employer sample. Therefore, the coverage of government entities, and taxable and tax exempt firms is identical to the SAS. The QSS does not produce estimates for firms without paid employees.

The QSS produces estimates of total revenue. For Hospitals and Nursing and Residential Care Facilities, however, estimates are published for total revenue and total expenses. In addition, for Hospitals, estimates are produced for number of inpatient days and discharges.

QSS data are benchmarked annually to the SAS. Data have not been seasonally adjusted. In general, at least three years of quarterly data are needed before seasonal adjustments can be evaluated. Accordingly, research to develop these factors will begin this calendar year, and seasonally adjusted data may be available from the QSS as early as 2008.

#### **V. Need for More Frequent Statistics for all Service Industries**

Today, with nearly 55 percent of all economic activity accounted for by services, it has been well documented that the federal statistical system has not kept up with the pace of change. To address this deficiency, in 2002 the Census Bureau led an interagency group of top-level officials from five major statistical agencies in developing a detailed, multi-phase plan for expanding the collection of data on service industries by the Census Bureau. The first phase included activities covered in the aforementioned FY 2003 budget initiative, with provisions for introducing the QSS.

However, the second phase of the plan has not yet been implemented. The second phase includes the expansion of the SAS and, ultimately, the remainder of the QSS, to cover all service industries to mirror the industry coverage of the economic census. The President has repeatedly requested funding for implementing this second phase, for FY 2004, FY 2005, and FY 2006, but such funding was omitted from the final Congressional budgets for those years.

Recognizing the critical need to fund these expansions, the President's budget for FY 2008 yet again includes an initiative, for \$8.1 million, calling for the completion of this second phase of improving service sector measurement. However, given the experience of the last few years, it may be unwise to assume that the receipt of full funding for this initiative will be undoubtedly forthcoming. Accordingly, the remainder of this paper describes various scenarios within which we would expand services data given that all funding or, alternatively, perhaps just portions of the requested funding actually materializes.

## **VI. What We Would Do for \$8.1 million (or less)**

### **A. If we received full funding in FY 2008 ...**

If the Census Bureau receives the full funding of \$8.1 million in FY 2008 for the improved measurement of service statistics, the expansion of QSS and SAS would be fully implemented, completing Phase II of the service expansion plan. It would be accomplished in three parts over three years.

Part 1 - FY 2008 - Expand QSS to include Ambulatory Health Services, Other Services, Arts, Entertainment, and Recreation, Truck Transportation, Couriers and Messengers, and Warehousing and Storage, and Rental and Leasing Services. This expansion will increase the QSS coverage of GDP from 17 percent to 30 percent and mimic the sector coverage of SAS.

In addition, preparatory activities for Part 2 expansion of SAS would be completed.

Part 2 - FY 2009 - Expand SAS to include the remainder of Finance and Insurance, the remainder of Transportation and Warehousing, Educational Services, the remainder of Real Estate and Rental and Leasing, and Utilities. This expansion will increase the SAS coverage of GDP from 30 percent to 55 percent and mimic the sector coverage of the Economic Census.

In addition, preparatory activities for Part 3 expansion of QSS would be completed.

Part 3- FY 2010 - Expand QSS to include Finance and Insurance, the remainder of Transportation and Warehousing, Educational Services, the remainder of Real Estate and Rental and Leasing, Utilities, and Accommodations. This expansion will increase the QSS coverage of GDP from 30 percent to 55 percent and mimic the sector coverage of the SAS and the Economic Census.

### **B. If we received only 50 percent funding in FY 2008 ...**

If the Census Bureau receives only half of the requested funding for the services initiative in FY 2008, the expansion of QSS and SAS could be only partially implemented. That is, with only 50 percent of the requested funding, completing Phase II of the service expansion plan could never

be completely accomplished. Due to greatly increased costs associated with maintaining the expanded coverage, insufficient resources would remain for full expansion of SAS and QSS to match that of the Economic Census.

Part 1 - FY 2008 - Expand QSS to include Ambulatory Health Services, Other Services, Arts, Entertainment, and Recreation, Truck Transportation, Couriers and Messengers, and Warehousing and Storage, and Rental and Leasing Services. This expansion will increase the QSS coverage of GDP from 17 percent to 30 percent and mimic the sector coverage of SAS.

In addition, preparatory activities for FY 2009 SAS expansion would be completed.

Part 2 - FY 2009 - Expand SAS to include the remainder of Finance and Insurance, the remainder of Transportation and Warehousing, and Educational Services. This expansion will increase the SAS coverage of GDP from 30 percent to 47 percent and fall short of mirroring the sector coverage of the Economic Census.

- C. **See Attachment B for alternative funding scenarios (e.g., 75 percent funding, 25 percent funding, priority given to SAS expansion, or priority given to QSS expansion). Partial funding will only support SAS and/or QSS expansions to a non-complete point – the point at which covering additional ongoing maintenance expenses associated with various survey expansion scenarios exhaust available funding.**

**Note that scenarios labeled “Option 1” prioritize the expansion of the QSS and those labeled “Option 2” prioritize the expansion of the SAS. Because the QSS is a sub-sample of the SAS, the SAS expansion for a specific sector or industry must occur before the QSS is expanded. Therefore, under any scenario, the QSS cannot be expanded beyond the industry coverage associated with the SAS.**

**The designation “Need Full Funding” in Attachment B indicates that complementary funding in an amount sufficient to reach the requested \$8.1 million would be necessary to complete phase II of the service expansion. That is, for any given scenario, the amount needed for “Need Full Funding” would equal \$8.1 million less the actual funding received.**

## **VII. What About Service Product Lines?**

This section describes plans to expand annual service data on products. These plans build upon the collection of comprehensive product detail from the 2007 Economic Census, SAS industry coverage expansion, and the use of sampling techniques that support reliable product statistics.

For years there have been calls for the expansion of service product line data. Service product detail is critically needed for performing productivity studies and for developing price deflators

for the national accounts. Additional service product data have been requested from both the Economic Census and the SAS. While thousands of manufacturing product categories have been collected and published for decades, product statistics on the much larger service sector are only beginning to emerge. Happily, under a full funding scenario, the Census Bureau could maintain existing levels of product detail available from the SAS and eventually produce a comprehensive and coordinated set of service product data from the Economic Census and the SAS.

The Census Bureau is presently planning for the collection and publication of a rich variety of service product data from the 2007 Economic Census. Hundreds of new service products will be collected for the first time as part of the 2007 Economic Census. Ultimately, these data will lay a firm foundation for the eventual inclusion of product data in the SAS. Specifically, after final product data are released from the 2007 Economic Census in late 2010, the Census Bureau will analyze the new product detail and determine possible products for inclusion in the SAS, including products for the newly expanded industries. Product detail to be included in the SAS will generally correspond to the “broad line” categories included in the Economic Census. Accordingly, close analysis of the Economic Census results will serve as important input for the SAS, providing real-life tests of reportability and economic significance for specific products.

#### Timeline

If the full funding of \$8.1 million initiative is received for the services initiative, additional product statistics will be produced in the SAS for the 2011 survey year. The 2011 survey year is currently planned as the first year of the new business current surveys sample. This sample revision will be the first sample selected to actually take account of the reliability of both industry statistics and product statistics. Currently, the sample is selected to account for reliability of industry statistics only. It is noteworthy that the new sampling methodology may increase the SAS sample size by as much as 50 percent, with accompanying increases in survey costs. Nevertheless, this should be supportable, given that full funding for the initiative is received, since the SAS and the QSS industry expansions would have been already accomplished.

Adding to the existing levels of product detail available from the SAS, prior to the sample revision, even though the existing sample would not guarantee that these added products would be reliable, may be possible to a limited degree. However, the amount of time and resources needed to analyze the results of the Economic Census for inclusion of new products into the SAS, as well resources required to expand SAS and QSS industry coverage, will be determining factors. In any event, producing new service product line statistics for the 2009 survey year or earlier is not realistic.



NAPCS product data are collected for the following selected service industries:

- Publishing,
- Motion Picture and Sound Recording,
- Broadcasting,
- Telecommunications,
- Internet Publishing,
- Internet Service Providers,
- Web Search Portals,
- Data, Processing Hosting and Related Services,
- Other Information Services,
- Securities and Commodity Contracts Intermediation and Brokerage,
- Computer Systems Design and Related Services,
- Accounting, Tax Preparation, Bookkeeping, and Payroll Services,
- Architectural, Engineering and Related Services,
- Management, Scientific and Technical Consulting Services,
- Scientific Research and Development Services,
- Advertising and Related Services,
- Employment Services,
- Travel Arrangement and Reservation Services,
- Waste Management and Remediation Services.

SAS Additional Data Content:

- For Health Services, estimates of each industry's sources of funding including Medicare, Medicaid, Worker's Compensation, private insurance, and patient out-of-pocket payments are produced.
- Estimates of revenue by size of shipments, commodities handled, and origin and destination of shipments are produced for Truck Transportation.
- Admissions revenue estimates are collected for select industries in Arts, Entertainment, and Recreation Services.
- Total expenses and expenses by detailed category are produced for all industries. Additional expense items are produced for select industries. These include purchased transportation and insurance costs for the Trucking industry; purchased printing for the Newspaper, Periodical, Book, Database, and Greeting card Publishing industries; and purchased software reproduction, and programming services for the Software Publishing industry; purchases of professional liability insurance and medical supplies for select Health industries; access charges and universal service contributions for telecommunication industries; broadcast rights and music license fees and network compensation fees for broadcasting industries; and program and production costs for cable industries.



- Non-operating interest expense estimates are collected for Securities and Commodity Contracts Intermediation and Brokerage industries and interest expense is collected for tax-exempt industries in Professional, Scientific and Technical Services, Healthcare and Social Assistance, Arts, Entertainment, and Recreation, and Other Services.
- Tax-exempt industries collect estimates for contributions, grants, and gifts received, investment and property income, and program service revenue.
- Total inventories and separate estimates of inventories for finished goods and work-in-process, and materials and supplies are produced for the Publishing Industries, and Motion Pictures and Sound Recording industries. Additionally, inventories for revenue generating equipment are collected in Truck Transportation
- Estimates of exported services are produced in the SAS for industries in the Information Sector, Securities and Commodity Contracts Intermediation and Brokerage, Professional, Scientific and Technical Services, Administrative and Support and Waste Management and Remediation Services, Rental and Leasing Services, and select industries in Arts, Entertainment, and Recreation and Other Services.

Expense Detail - For survey years ending in 07 and 12, starting with the 2007 survey year, the following expense detail are planned to be collected for every industry:

- Total annual payroll before deductions
- Employer's cost for fringe benefits
- Temporary staff and leased employee expense
- Expensed equipment
- Purchases of other materials, parts, and supplies
- Expensed purchases of software
- Data processing and other purchased computer services
- Purchased communication services
- Purchased repairs and maintenance to buildings, structures, and offices
- Purchased repairs and maintenance to machinery and equipment
- Purchased electricity
- Purchased fuels (except motor fuels)
- Water, sewer, refuse removal, and other utility programs
- Lease and rental payments for land, building, structure, store space, and offices
- Lease and rental payments for machinery, equipment, and other tangible items
- Purchased advertising and promotional services
- Purchased professional and technical services
- Other expensed purchased services
- Depreciation and amortization charges
- Taxes and license fees
- All other operating expenses

SECTOR & GDP PERCENT COVERAGE BY FUNDING LEVEL, OPTION & FISCAL YEAR													Attachment B
Funding Level		Existing		2008		2009		2010		2011		2012	
100%	QSS	51, 54, 56, 622, 623	17%	484, 492, 493, 532, 621, 624, 71, 81	30%			22, 481, 483, 485, 486, 487, 488, 52, 531, 533, 61	55%				
	SAS	484, 492, 493, 51, 523, 532, 54, 56, 62, 71, 81	30%			22, 481, 483, 485, 486, 487, 488, 521, 522, 524, 525, 531, 533, 61	55%						
75% Option 1	QSS	51, 54, 56, 622, 623	17%	484, 492, 493, 532, 621, 624, 71, 81	30%			22, 481, 483, 485, 486, 487, 488, 52, 61	49%			Need Full Funding 531, 533	55%
	SAS	484, 492, 493, 51, 523, 532, 54, 56, 62, 71, 81	30%			22, 481, 483, 485, 486, 487, 488, 521, 522, 524, 525, 61	49%			Need Full Funding 531, 533	55%		
Option 2	QSS	51, 54, 56, 622, 623	17%	484, 492, 493, 532, 621, 624, 71, 81	30%			Need Full Funding 22, 481, 483, 485, 486, 487, 488, 52, 531, 533, 61	55%				
	SAS	484, 492, 493, 51, 523, 532, 54, 56, 62, 71, 81	30%			22, 481, 483, 485, 486, 487, 488, 521, 522, 524, 525, 531, 533, 61	55%						
50% Option 1	QSS	51, 54, 56, 622, 623	17%	484, 492, 493, 532, 621, 624, 71, 81	30%			Need Full Funding 481, 483, 485, 486, 487, 488, 52, 61	47%			Need Full Funding 22, 531, 533	55%
	SAS	484, 492, 493, 51, 523, 532, 54, 56, 62, 71, 81	30%			481, 483, 485, 486, 487, 488, 521, 522, 524, 525, 61	47%			Need Full Funding 22, 531, 533	55%		
Option 2	QSS	51, 54, 56, 622, 623	17%					Need Full Funding 484, 492, 493, 532, 621, 624, 71, 81	30%	Need Full Funding 22, 481, 483, 485, 486, 487, 488, 52, 531, 533, 61	55%		
	SAS	484, 492, 493, 51, 523, 532, 54, 56, 62, 71, 81	30%			22, 481, 483, 485, 486, 487, 488, 521, 522, 524, 525, 531, 533, 61	55%						
25% Option 1	QSS	51, 54, 56, 622, 623	17%	484, 492, 493, 532, 621, 624, 71, 81	30%			Need Full Funding 481, 483, 485, 486, 487, 488, 52, 61	47%			Need Full Funding 22, 531, 533	55%
	SAS	484, 492, 493, 51, 523, 532, 54, 56, 62, 71, 81	30%			Need Full Funding 481, 483, 485, 486, 487, 488, 521, 522, 524, 525, 61	47%			Need Full Funding 22, 531, 533	55%		
Option 2	QSS	51, 54, 56, 622, 623	17%					Need Full Funding 484, 492, 493, 532, 621, 624, 71, 81	30%	Need Full Funding 22, 481, 483, 485, 486, 487, 488, 52, 531, 533, 61	55%		
	SAS	484, 492, 493, 51, 523, 532, 54, 56, 62, 71, 81	30%			481, 483, 485, 486, 487, 488, 521, 522, 524, 525, 61	47%	Need Full Funding 22, 531, 533, 55%					

### Sector and Industry Descriptions for Attachment B

<b>22</b>	Utilities
<b>481</b>	Air Transportation
<b>483</b>	Water Transportation
<b>484</b>	Truck Transportation
<b>485</b>	Transit and Ground Passenger Transportation
<b>486</b>	Pipeline Transportation
<b>487</b>	Scenic and Sightseeing Transportation
<b>488</b>	Support Activities for Transportation
<b>492</b>	Couriers and Messengers
<b>493</b>	Warehousing and Storage
<b>51</b>	Information
<b>52</b>	Finance and Insurance
<b>521</b>	Monetary Authorities-Central Bank
<b>522</b>	Credit Intermediation and Related Activities
<b>523</b>	Securities, Commodity Contracts, and Other Financial Investments and Related Activities
<b>524</b>	Insurance Carriers and Related Activities
<b>525</b>	Funds, Trusts, and Other Financial Vehicles
<b>531</b>	Real Estate
<b>532</b>	Rental and Leasing Services
<b>533</b>	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)
<b>54</b>	Professional, Scientific, and Technical Services
<b>56</b>	Administrative and Support and Waste Management and Remediation Services
<b>61</b>	Educational Services
<b>621</b>	Ambulatory Health Care Services
<b>622</b>	Hospitals
<b>623</b>	Nursing and Residential Care Facilities
<b>624</b>	Social Assistance
<b>71</b>	Arts, Entertainment, and Recreation
<b>81</b>	Other Services (except Public Administration)